Environmental Sciences

BIOASSESSMENT OF FISH POPULATIONS IN THE OHIO RIVER NEAR ZIMMER POWER PLANT MOSCOW, OHIO.

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As part of an ongoing study of the Ohio River near Cincinnati, Ohio, a bioassessment of the fishes and an examination of associated physiochemical parameters were performed. The overall goal of the study was to determine the potential impacts of a coal-burning power plant on the river ecosystem. The primary objectives of this study were to assess the current composition of the fish community, examine spatial variation among populations upstream and downstream from the power plant and investigate the hydrological, chemical, and physical characteristics of the Ohio River near the plant. A total of 37 fish species comprising over 3000 individuals were collected by electrofishing, gill net, and hoop net techniques. This sampling of upstream and downstream areas around Zimmer revealed very comparable fish communities. Air and water temperatures followed both seasonal and daily patterns as expected. None of the air and water temperatures taken at the sampling sites fell outside of the daily maximum or minimums as reported at the Meldahl Lock & Dam weather station. Dissolved oxygen (DO) levels showed little variation with a mean of 7.43 mg/L, the lowest 4.8mg/L measurement was taken upstream from the plant at Z-G1. There was no substantial difference between sites when measuring water pH. The mean pH value for all sites was 7.71.